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54 Name of Invention Video Disk System with Special Information
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72 Inventor Norimi Yasue c/o Brother Industries, Ltd.
Hotta-dori 9-35, Mizuho-ku, Nagoya-shi, Aichi-ken
71 Applicant Brother Industries, Ltd.
Naeshiro-cho 15-1, Mizuho-ku, Nagoya-shi, Aichi-ken

Specification

1. Name of Invention

Video Disk System with Special Information

2. Scope of Claims

1. In connection with a video disk system comprised of a disk in which television image and voice signals are recorded and a video disk player which is capable of replaying the said disk, a video disk system with special information that is characterized by having recorded in the disk primary information and secondary information upon which secondary information identification codes are superimposed, and that is characterized by having the player provided with the code detection circuit that detects the secondary information identification codes, provided with the code identification circuit that identifies whether or not information being replayed is secondary information, and provided with the control circuit that if the information is determined to be secondary information, replays the secondary information in advance of the primary information by prohibiting the mode in which information such as special replay or random access is skipped in viewing.

3. Detailed Explanation of the Invention

[Field of Use in Industry]

This invention relates to a video disk system which is capable of replaying television signals, and more specifically, relates to a video disk system with special information having secondary information in addition to primary information and having a means to prohibit the skip-viewing mode during replay of secondary information.
[Conventional Technology]

The conventional video disk system realized sophisticated random accessing and special functionality by detecting and decoding various code signals inserted during blanking periods within image signals.

[Problems that the Invention Tries to Solve]

A video disk system, however, also has a fatal shortcoming in that it can be used exclusively for replaying. In consideration of popularity of VCR and VCR cassette rental system, a further reduction in prices of video disks is desirable.

With respect to its functionality, [the conventional video disk system] has only a relatively few functions such as picture-stop or noise reduction other than random-accessing, given its control with insertion of various codes during blanking periods, and

it is also desirable to add more functions.

The instant invention was made to solve the above-stated problems, and its objective is to provide a video disk system with special information having a means of ensuring to display to a user secondary information, i.e., the special information that is always desired to be seen by the viewer.

[A Means to Solve the Problems]

In order to achieve this objective, the video disk system with special information in accordance with the instant invention, having superimposed in advance on secondary information which is the special information a secondary information identification code to distinguish [the secondary information] from the primary information, has provided on the player side, in addition to the replay means of the conventional video disk player, with a code detection circuit for detecting the above-stated secondary information identification codes, a code identification circuit to identify whether or not information is secondary, and a control circuit that prohibits the skip-viewing mode during replay of the secondary information.

[Operations]

The above-stated code detection circuit having the above-stated structure according to the instant invention operates to extract the secondary information identification code that is superimposed on the image signal in the secondary information. The above-stated code identification circuit operates to identify whether or not [the information] is secondary information on the basis of the above-stated secondary information identification code. The above-stated control circuit operates to replay secondary information in advance of primary information by prohibiting the above-stated skip-viewing mode during secondary information replay.

[Embodiments]

One embodiment that specifically embodies the instant invention is explained as follows while referencing figures.

First, by referencing Figure 1, one example of how to place information on a disk in an optical video disk system (hereinafter referred to as the optical system) is explained. Secondary information section is placed inside of primary information section. Read-in section that indicates the beginning of information is placed further inside of the above-stated secondary information section. Read-out information that indicates the end of the information is placed on the outside of the above-stated primary information. The reason for the above-described placement is that since replaying of a disk goes from the inside to the outside in the above-stated optical system, if the secondary information section is placed immediately outside of the read-in section, then the secondary information gets to be replayed in advance of the primary information without providing for any special control.

Next, by referencing Figure 2, one example of how to place information on a disk in the VHD video disk system (hereinafter referred to as the VHD system) is explained. Read-in section, secondary information section, primary information section and read-out section are placed in that order from outside, which is the converse of [the order in] Figure 1. This placement is chosen so that the secondary information may be replayed in advance of the primary information in consideration of the fact that in the above-stated VHD system, replaying of the disk goes from the outside to the inside of the disk.

Next, by referencing Figure 3, a secondary information identification code in the optical video disk system is explained [as follows]. Since conventional codes are superimposed on lines 16, 17, 18, 280 and 281 of image signals in the optical system excluding the film source, a certain specific code superimposed on line 279 can be made a secondary information identification code as hatch-marked in Figure 3, for example. Also, a case of the film source is not shown in any figure, but since conventional codes are superimposed on lines 17, 18, 279, 280 and 281 [in such a case], a certain specific code superimposed on line 16 can be made a secondary information identification code, for example. As described above, without superimposing a specific code on a

line that has neither an image signal nor code signal, a specific code superimposed on a line that has a conventional code superimposed such as a picture stop code can be made a secondary information identification code by superimposing a different code from the [conventional] code.

By the way, signals of lines 10, 273 and 274 in Figure 3 are not directly related to the instant invention.

Next, a secondary information identification code is explained in the VHD system while referencing Figure 4. Since conventional codes in the VHD system are superimposed on lines 17, 18, 20, 280 and 283 in the image signals, by superimposing as one example a specific code on line 279 as hatch-marked in Figure 4, the code can be made a secondary information identification code.

Also in the VHD method, as in the case of the above-stated optical system, when superimposing codes on lines on which conventional codes are superimposed, by superimposing codes that can be distinguished from the conventional codes, the codes can be made secondary information identification codes.

Next, operations of a circuit to be added to the conventional circuit in the player portion in accordance with the instant invention are explained [as follows] while referencing Fig. 5.

Secondary information identification codes superimposed on composite image signals obtained through various processes from RF signals obtained from the pick-up portion are detected as code signals by the code detection circuit 2 from the above-stated composite image signals.

When the above-stated code signals are obtained, the identification circuit 4 makes the determination as to whether or not they are secondary information and sends an output of identification signals. When the above-stated identification signals are obtained, the control circuit 6 modifies control signals to carry out the conventional mode obtained from the code detection circuit 1, code identification circuit 3 and control circuit 5 and sends the modified control signal so that the operation of prohibition of the above-stated skip-only-secondary-information-viewing mode can be carried out.

Incidentally, even if a circuit is not added specifically as indicated by Figure 5, since circuits 1, 3 and 5 are controlled by a microprocessor, [the same] can be realized by revising software in the said microprocessor.

[Effect of Invention]

As made clear by what was described in detail above, according to the instant invention, secondary information is replayed in advance of primary information, and the operation is such that the above-stated skip-viewing mode is prohibited during the secondary information replay. Thus, [the instant invention] is effective in making it possible that the user always view secondary information before primary information which is the [primary] objective [of viewing]. If for example, a commercial message is inserted as secondary information according to the instant invention, then it will be tremendously effective in increasing the number of viewers of the said commercial message, and it will make it realistically possible to reduce the cost of disks.

4. Brief Explanation of Figures

Figures 1 ~ 5 show an embodiment in which the instant invention is specifically realized. Figure 1 shows placement of information on a disk in the above-stated optical system. Figure 2 shows placement of information on a disk in the above-stated VHD system. Figure 3 shows one example in which a secondary information identification code is superimposed in an image signal in the above-stated optical system. Figure 4 shows one example in which a secondary information identification code is superimposed in an image signal in the above-stated VHD system. Figure 5 shows the structure of the player portion in the above-stated video disk system according to the instant invention relative to the conventional circuit.

In Figure [5], 2 represents the code detection circuit; 4, the code identification circuit; and 6, the control circuit.

Applicant

Brother Industries, Ltd.

President and Representative Director: Yoshihiro Yasui

Figure 1

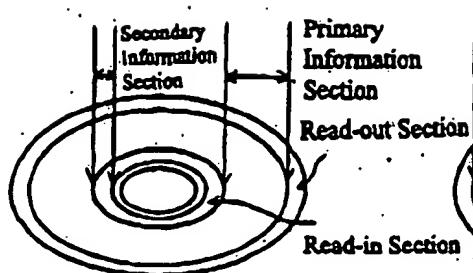


Figure 2

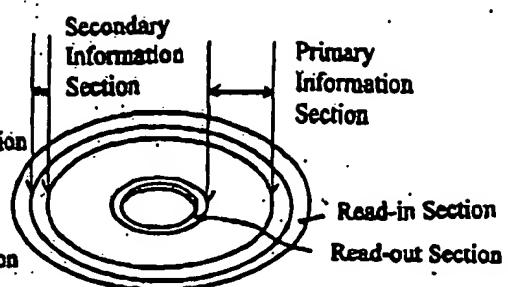


Figure 3

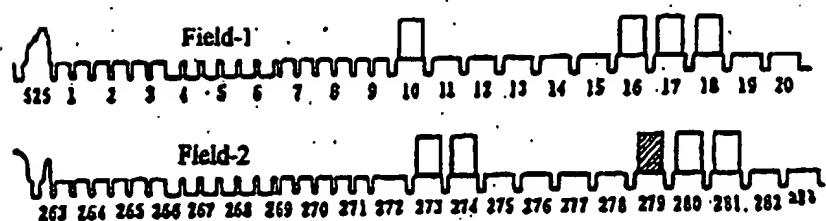


Figure 4

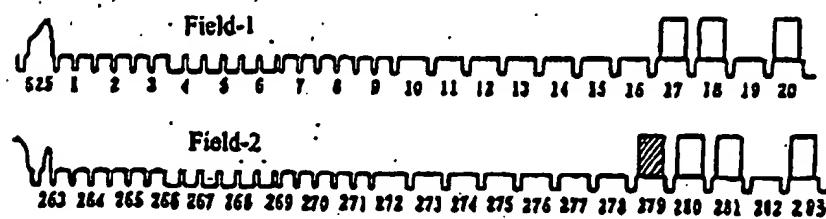


Figure 5

